

**METHOD AND APPARATUS FOR CONTROLLING AN INTERNAL  
COMBUSTION ENGINE USING COMBUSTION CHAMBER  
PRESSURE SENSING**

**Abstract**

The present method and apparatus employ a signal indicative of cylinder pressure within the combustion chamber of an internal combustion engine to control combustion phasing or start of combustion (SOC) in subsequent cycles of the engine where the engine is driven by combustion of both a fuel/air premixed charge and a directly injected quantity of fuel. A ratio of signals indicative of pre-combustion pressure and post-combustion pressure within a cycle are employed to estimate SOC and then, based on a predetermined target SOC, an ignition lever is employed to adjust subsequent SOC. A preferred ignition lever is, in a pilot fuel ignited engine, pilot fuel quantity.